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# Despite 'crypto winter,' new Bitcoin mines continue to open

BY DAVID Z. MORRIS

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The past two years have been rocky for Bitcoin, and a major change on the horizon promises continued uncertainty. But investors still seem

enthusiastic about the potential returns of Bitcoin "mining," plowing millions into the increasingly massive arrays of high-power processors that securely track transactions and earn Bitcoin in return.

The latest new Bitcoin mine comes with the **backing** of one of the biggest names in tech investing: Peter Thiel, the PayPal cofounder and early Facebook investor. A startup he helped fund, Layer1, today announced the opening of its first Bitcoin mining facility, covering over 30 acres and costing tens of millions of dollars.

Bitcoin is still recovering from the bursting of a huge speculative bubble in late 2017, when the price of the decentralized cryptocurrency collapsed just before hitting \$20,000. The price dipped as low as \$3,500 and has slowly climbed back to around \$10,000.

Investments in crypto have remained **broadly depressed** through a prolonged and chilly "crypto winter." But Bitcoin mining remains an apparent bright spot.

Companies including **Hut 8**, **Bitmain**, and **Bitfarms** all built or expanded Bitcoin mining facilities in 2019. And the Bitcoin network's "hashrate"—the total computing power of all participating miners worldwide—has **more than doubled** over the past year.

Bitcoin miners are essentially the bookkeepers of the Bitcoin network, compiling transactions and adding them to "blocks" of records published every 10 minutes. Miners earn the right to publish a block of transactions by being the first to solve a very hard, random mathematical equation known as a "hash" or "hashing puzzle."

When they win that computing race, miners are rewarded with a fixed amount of Bitcoin—currently 12.5 Bitcoin, or about \$125,000. It's still theoretically possible to mine Bitcoin on a single machine tucked into a closet, but most mining these days is at industrial scale.

Layer1's new facility is in an unlikely location—about 100 miles west of Midland, Tex. Electricity is one of the biggest costs in Bitcoin mining, and

according to Layer1 CEO Alexander Liegl, “the cheapest electricity in the world, at scale, is in West Texas right now.”

Electricity is cheap and plentiful in the region thanks to a mix of market deregulation, a glut of natural gas produced through [fracking](#), and the simultaneous infusion of large renewable energy [investments and subsidies](#) from the state government. Liegl says that the Layer1 facility’s power is “heavily skewed” towards wind sources, with “some natural gas component.”

But West Texas has a big disadvantage, too: heat. The mercury regularly tops 100 degrees over nearly half the year around Midland, but getting the most out of mining equipment requires keeping it cool. That has motivated some mining operations to locate in [cold climates like Iceland](#). (Layer1 competitor Bitmain built its new mining facility in the significantly cooler Texas hill country to the east, near Austin.)

Layer1 has a trick up its sleeve to deal with the heat. Most mining equipment is what Liegl refers to as a “shoebox” format—a long, air-cooled box with a fan on one end. But Layer1’s equipment, which the company designs itself, mines Bitcoin while immersed in an oil-based coolant. That substantially insulates the equipment from the outside temperature, prolongs its life, and even allows overclocking, or running the hardware at higher power settings.

Liquid cooling lets Layer1 access affordable energy whatever the weather, and Liegl says that's crucial to competing. New Bitcoin mining chips, known as ASICs, used to arrive at a rapid clip, forcing miners into expensive upgrades to stay competitive. But that has slowed, says Liegl, and “the competitive advantage of the future is [lowering] your operational expenses.” Lower expenses, particularly cheaper electricity, make running a particular piece of mining hardware more profitable over time.

Of course, the long-term value of a Bitcoin mining investment will always depend on the price of the notoriously volatile cryptocurrency. But building a mining facility now comes with another x-factor. In just under [three months](#), Bitcoin will experience what’s known as a “[halving](#)”—a reduction of the reward distributed to miners that happens roughly every three years. This time, the reward for each block will decline from 12.5 to 6.25 Bitcoin.

Bitcoin's structure should force older and more electricity-thirsty mining machines off the network as rewards decline, leaving a greater share for the miners that remain. There's also speculation that the halving, by reducing the amount of new Bitcoin, could push up the price of each one in dollars. Layer1's technology and cheap electricity, then, could turn the halving into an advantage, as long as the startup stays more efficient than rival miners.

"We don't care about the halving at all," says Liegl. "We just care about beating our competitors."

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